

## **LISTING OF THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A *C. albicans* cell containing a vector in which a nucleic acid molecule which encodes a cell wall protein necessary for the hyphae development of a pathogenic fungal organism is arranged in antisense orientation to at least one regulation ~~elements~~ element and is selected from the group consisting of:

a) a nucleic acid molecule having ~~a one of the nucleotide sequences shown in~~ sequence selected from the group consisting of SEQ ID No. 1, SEQ ID No. 3 and ~~[[or]]~~ SEQ ID No. 5,

b) a nucleic acid molecule having a nucleotide sequence which encodes a protein having ~~an one of the amino acid sequences shown in~~ sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and ~~[[or]]~~ SEQ ID No. 6,

c) a nucleic acid molecule having a nucleotide sequence which shows a homology of at least 80% to a nucleotide sequence of one of the nucleic acid molecules of a) or b) over its entire length, and

d) a nucleic acid molecule having a nucleotide sequence which is complementary to a nucleotide sequence of one of the nucleic acid molecules of a) to c), and

e) a fragment of a nucleic acid molecule defined in a) to d) which can inhibit the expression of a cell wall protein of a pathogenic fungal organism in antisense orientation to a promoter in a host cell and which comprises at least 10 nucleotides.

2. (Currently Amended) A method for the production of a cell wall protein necessary for the hyphae development of a pathogenic fungal organism, said method comprising ~~[[the]]~~ culturing ~~[[of]]~~ a host cell in a suitable culture medium under conditions which allow expression of the cell wall protein, and obtaining ~~the obtainment~~ of the expressed cell wall protein from the cell

or from the medium, wherein the host cell contains at least one vector in which the nucleic acid molecule defined in claim 1 is arranged in antisense orientation to at least one regulation element.

3. (Currently Amended) An antibody which specifically recognizes a protein and binds thereto, wherein the protein contains an [[the]] amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6.

4. (Currently Amended) The antibody as claimed in claim 3, wherein the antibody is being a monoclonal or a polyclonal antibody.

5. (Currently Amended) A method for at least one of the characterization of and/or for and the detection of the hyphae stage of *Candida* cells or cells of pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species, the method comprising the incubation of the cells or cell fractions thereof with an agent for the identification of a cell wall protein which contains the amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6, wherein the detection of the protein or of a fragment thereof indicates indicating the presence of the virulent hyphae stage of the cells.

6. (Currently Amended) The method as claimed in claim 5, wherein the *Candida* cells to be characterized are selected from the group consisting of being cells of *C. albicans*, *C. tropicalis*, *C. krusei*, *C. parapsilosis*, *C. guilliermondii*, *C. glabrata*, *C. dubliniensis* [[or]] and *C. lusitaniae*.

7. (Currently Amended) The method as claimed in claim 5 ~~or 6~~, wherein the cells to be characterized are being present in a biological sample.

8. (Currently Amended) The method as claimed in claim 5 one of claims 5 to 7, wherein the cells to be characterized are being cells isolated from a biological sample and enriched intact cells.

9. (Currently Amended) The method as claimed in claim 5 one of claims 5 to 8, wherein isolated cell fractions are being employed for the characterization, wherein said fragments which are

~~obtained~~ ~~obtainable~~ by cell disruption and fractionation of *Candida* cells or cells of species related to *Candida* and which comprise at least one cell wall fraction.

[[9.]] 10. (Currently Amended) The method as claimed in claim 5 ~~one of claims 5 to 9~~, wherein the agent employed for the identification of the protein ~~is being~~ an immunological agent.

[[10.]] 11. (Currently Amended) The method as claimed in claim 10 ~~claim 9~~, wherein the immunological agent ~~is selected from the group consisting of~~ ~~being~~ an antiserum directed against the protein, an antibody which specifically recognizes a protein and binds thereto, wherein the protein contains an amino acid sequence selected from the group consisting of SEQ ID No: 2, SEQ ID No: 4 and SEQ ID No: 6, ~~as claimed in claim 3 or 4 or a fragment thereof~~ ~~[[or]]~~ and a complex thereof.

[[11.]] 12. (Currently Amended) The method as claimed in claim 11 ~~claim 10~~, wherein the antibody ~~has~~ ~~having~~ a label selected from the group consisting of a dye label, a radiolabel, a fluorescent label, a chemiluminescent label ~~[[or]]~~ and an enzyme inducing a measurable reaction.

[[12.]] 13. (Currently Amended) A method for at least one of the detection of a *Candida* infection and ~~and/or~~ of an infection by pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species in a biological sample obtained from a human or animal organism, wherein the presence of at least one ~~the~~ protein selected from the group consisting of Rbr1p, Rbr2p and ~~and/or~~ Rbr3p ~~and/or~~ and ~~[[of]]~~ a fragment thereof in at least one of the biological sample and ~~and/or~~ in the cell wall of *Candida* cells or cells of pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species optionally contained in the biological sample ~~is being~~ detected, the method comprising

a) incubating ~~the incubation of~~ the biological sample with an agent for the identification of the cell wall protein which contains ~~[[the]]~~ an amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6, and

b) ~~detecting the detection of~~ the interaction of the identification means with the protein.

[[13.]] 14. (Currently Amended) The method as claimed in claim 13 ~~claim 12~~, wherein the *Candida* cells ~~are being~~ cells selected from the group consisting of *C. albicans*, *C. tropicalis*, *C. krusei*, *C. parapsilosis*, *C. guilliermondii*, *C. glabrata*, *C. dubliniensis* and [[or]] *C. lusitaniae*.

[[14.]] 15. (Currently Amended) The method as claimed in claim 13 ~~claim 12 or 13~~, wherein the biological sample is selected from the group consisting of being a skin or mucous membrane swab, an organ biopsy, a tissue biopsy, a body fluid, a body secretion, stool and [[or]] a rinse from a cavity ~~cavities~~ or a hollow organ ~~organs~~.

[[15.]] 16. (Currently Amended) The method as claimed in claim 15 ~~claim 14~~, wherein the body fluid is selected from the group consisting of being sputum, urine, pleural effusion, spinal fluid, lymph [[or]] and blood.

[[16.]] 17. (Currently Amended) The method as claimed in claim 16 ~~claim 15~~, wherein the blood is being present as an unpurified blood sample, blood plasma or blood serum.

[[17.]] 18. (Currently Amended) The method as claimed in claim 16 ~~claim 15 or 16~~, wherein invasive candidiasis is being detected by the detection of the protein in blood or in the cell wall of *Candida* cells contained in the blood.

[[18.]] 19. (Currently Amended) The method as claimed in claim 13 ~~one of claims 12 to 17~~, wherein the agent employed for the identification of the protein is being an immunological agent.

[[19.]] 20. (Currently Amended) The method as claimed in claim 19 ~~claim 18~~, wherein the immunological agent is selected from the group consisting of being an antiserum directed against the protein, an antibody which specifically recognizes a protein and binds thereto, wherein the protein contains an amino acid sequence selected from the group consisting of SEQ ID No: 2, SEQ ID No: 4 and SEQ ID No: 6, as claimed in claim 3 or 4 or a fragment thereof and [[or]] a complex

thereof.

[[20.]] 21. (Currently Amended) The method as claimed in claim 19 ~~claim 18 or 19~~, wherein the antibody ~~has~~ ~~having~~ a label selected from the group consisting of a dye label, a radiolabel, a fluorescent label, a chemiluminescent label and ~~and~~ ~~[[or]]~~ an enzyme inducing a measurable reaction.

[[21.]] 22. (Currently Amended) A method for the discovery and identification of substances having therapeutic action against diseases which are caused by *Candida* species or pathogenic fungal *Trichosporon* or *Blastoschizomyces* species, wherein a substance to be tested ~~is~~ ~~being~~ brought into contact in a suitable medium with at least one agent and an interaction between the substance to be tested and the agent ~~is~~ ~~being~~ detected, and wherein the agent ~~is~~ ~~being~~ selected from the group consisting of:

a nucleic acid molecule which encodes a cell wall protein necessary for the hyphae development of a pathogenic fungal organism and which is selected from the group consisting of:

a) a nucleic acid molecule having one of the nucleotide sequences selected from the group consisting of ~~shown in~~ SEQ ID No. 1, SEQ ID No. 3 and ~~and~~ ~~[[or]]~~ SEQ ID No. 5,

b) a nucleic acid molecule having a nucleotide sequence which encodes a protein having an one of the amino acid sequence selected from the group consisting of ~~sequences shown in~~ SEQ ID No. 2, SEQ ID No. 4 and ~~and~~ ~~[[or]]~~ SEQ ID No. 6,

c) a nucleic acid molecule having a nucleotide sequence which shows a homology of at least 80% to a nucleotide sequence of one of the nucleic acid molecules of a) or b) over its entire length,

d) a nucleic acid molecule having a nucleotide sequence which is complementary to a nucleotide sequence of one of the nucleic acid molecules of a) to c), and

e) a fragment of a nucleic acid molecule defined in a) to d) which can inhibit the expression

of a cell wall protein of a pathogenic fungal organism in antisense orientation to a promoter in a host cell and which comprises at least 10 nucleotides,

a vector which contains a nucleic acid molecule,

a host cell which contains the vector,

a protein which contains an amino acid sequence selected from the group consisting of SEQ ID No. 2, SEQ ID No. 4 and SEQ ID No. 6, and

an antibody which specifically recognizes the protein and binds thereto.

[[22.]] 23. (Currently Amended) A diagnostic composition comprising an agent identified characterized according to the method of [[in]] claim 22 claim-21.

[[23.]] 24. (Currently Amended) A pharmaceutical composition comprising an agent identified characterized according to the method of [[in]] claim 22 claim-21.

[[24.]] 25. (Currently Amended) A [[The]] pharmaceutical composition as claimed in claim-23, in the form of it being a vaccine which contains a protein identified characterized [[in]] according to the method of claim 22 claim-21 and which is suitable for the active immunization of a human or animal body against a *Candida* infection.

[[25.]] 26. (Currently Amended) A [[The]] pharmaceutical composition in the form of as claimed in claim 23, it being a vaccine which contains an antibody identified characterized according to the method of [[in]] claim 22 claim-21 and which is suitable for the passive immunization of a human or animal body against a *Candida* infection.

[[26.]] 27. (Currently Amended) The pharmaceutical composition as claimed in claim 25 claim-24 or 25, wherein the vaccine is being present as a lyophilizate.

[[27.]] 28. (Currently Amended) The pharmaceutical composition as claimed in claim 25 ~~claim 24 or 25~~, wherein the vaccine is being present as an aqueous colloidal solution or suspension.

[[28.]] 29. (Currently Amended) The pharmaceutical composition as claimed in claim 25 ~~one of claims 24 to 27~~, additionally containing at least one adjuvant.

[[29.]] 30. (Currently Amended) A kit for the in vitro identification of at least one of a ~~[[the]]~~ cell wall protein selected from the group consisting of Rbr1p, Rbr2p and and/or Rbr3p of *Candida* species, ~~or of a pathogenic organism of a *Trichosporon* species, or of a *Blastoschizomyces* species~~ and/or for the in vitro detection of the virulence of the cells, said kit comprising at least one container containing having an antibody as claimed in claim 3 ~~or 4~~.

[[30.]] 31. (Currently Amended) The kit as claimed in claim 30 ~~claim 29~~, comprising a second container containing having the isolated and purified protein comprising an having one of ~~the~~ amino acid sequence selected from the group consisting of shown in SEQ ID No. 2, SEQ ID No. 4 and ~~[[or]]~~ SEQ ID No. 6.

[[31.]] 32. (Currently Amended) A method ~~The use of an agent characterized in claim 21~~ for the diagnosis of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species which comprises administering to said organism an agent identified by the method of claim 22.

[[32.]] 33. (Currently Amended) A method ~~The use of an agent characterized in claim 21~~ for the production of a diagnostic composition for the diagnosis of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species wherein the method comprises incorporating into said diagnostic composition a therapeutic substance identified by the method of claim 22.

[[33.]] 34. (Currently Amended) A method ~~The use of an agent characterized in claim 21~~ ~~as an active compound~~ for at least one of the treatment and and/or prevention of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of

a *Trichosporon* species or of a *Blastoschizomyces* species, which method comprises administering to an organism in need thereof a composition comprising, as an active material, a substance identified by the method of claim 22.

[[34.]] 35. (Currently Amended) A method ~~The use of an agent characterized in claim 21 as an active compound~~ for the production of a pharmaceutical composition for at least one of the treatment and and/or prevention of diseases of a human or animal organism which are caused by *Candida* species or pathogenic fungal organisms of a *Trichosporon* species or of a *Blastoschizomyces* species, which method comprises including within said pharmaceutical composition a substance identified by the method of claim 22.

[[35.]] 36. (Currently Amended) A method ~~The use of an agent characterized in claim 21~~ for at least one of the identification and and/or for the detection of a substance substances which inhibit the expression or activity of the Rbr1p protein in a pathogenic fungal organism and are suitable as an active compound for the production of a pharmaceutical composition for the control of complaints caused by *Candida* species wherein said substance is identified or detected with the use of a material identified by the method of claim 22.

[[36.]] 37. (Currently Amended) A method ~~The use of a nucleic acid molecule having one of the nucleotide sequences shown in SEQ ID No. 1, SEQ ID No. 3 or SEQ ID No. 5, of a nucleic acid molecule having a nucleotide sequence which encodes a protein having one of the amino acid sequences shown in SEQ ID No. 2, SEQ ID No. 4 or SEQ ID No. 6, or of a fragment thereof~~ for the isolation of a homologous nucleic acid which encodes at least one of the Rbr1p protein, the Rbr2p protein and the [[or]] Rbr3p protein of at least one selected from the group consisting of *C. tropicalis*, *C. krusei*, *C. parapsilosis*, *C. guilliermondii*, *C. glabrata*, *C. dubliniensis*, and *C. lusitaniae*, of a *Trichosporon* species, [[of]] a *Blastoschizomyces* species or of another fungal pathogenic organism, wherein said method involves the use of at least one selected from the group consisting of a nucleic acid molecule having one of the nucleotide sequences selected from SEQ ID No:1, SEQ ID No: 3 and SEQ ID No: 5, a nucleic acid molecule having a nucleotide sequence which encodes a protein having one of the amino acid sequences selected from the group consisting of SEQ ID No: 2, SEQ ID No: 4 and SEQ ID No: 6, and a fragment thereof.



[[37.]] 38. (Currently Amended) A method ~~The use of an antibody as claimed in claim 3 or 4~~ for at least one of the characterization and ~~and/or~~ for the detection of the virulent hyphae stage of *Candida* cells, wherein said method involves the use of an antibody according to claim 3.